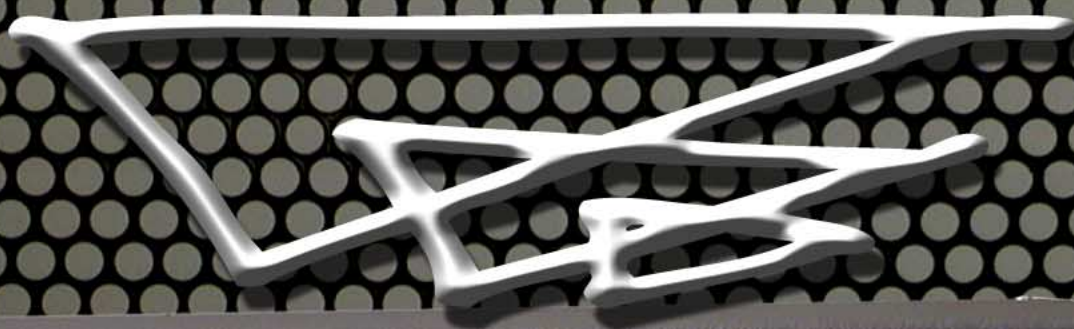


# CRATE

## BV300H



**This is the operation guide for the Crate BV300H.**

**READ IT.**

**Then get ready for the Ride of your Life!**



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|                                                                                                                                                                                                                                                                      |                                                         |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                                                                                   | <b>CAUTION</b><br>RISK OF ELECTRIC SHOCK<br>DO NOT OPEN |  |
| <small>WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</small> |                                                         |                                                                                     |

|                                                                                                                                                                                                                                                                                                                                  |                                                       |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                               | <b>PRECAUCION</b><br>RIESGO DE CORRIENTAZO<br>NO ABRA |  |
| <small>PRECAUCION: PARA REDUCIR EL RIESGO DE INCENDIOS O DESCARGAS ELECTRICAS, NO PERMITA QUE ESTE APARATO QUEDE EXPUESTO A LA LLUVIA O LA HUMEDAD. PARA DISMINUIR EL RIESGO DE CORRIENTAZO, NO ABRA LA CUBIERTA. NO HAY PIEZAS ADENTRO QUE EL USUARIO PUEDO REPARAR DEJE TODO MANTENIMIENTO A LOS TECNICOS CALIFICADOS.</small> |                                                       |                                                                                     |

|                                                                                                                                                                                                                                                                                                                     |                                                             |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                | <b>ATTENTION</b><br>RISQUE D'ELECTROCUTION<br>NE PAS OUVRIR |  |
| <small>ATTENTION: PROTEGEZ CET APPAREIL DE LA PLUIE ET DE L'HUMIDITE AFIN D'EVITER TOUT RISQUE D'INCENDIE OU D'ELECTROCUTION. POUR REDUIRE D'ELECTROCUTION NE PAS ENLEVER LE COUVERCLE. AUCUNE PIECE INTERNE N'EST REPARABLE PAR L'UTILISATEUR. POUR TOUTE REPARATION, S'ADRESSER A UN TECHNICIEN QUALIFIE.</small> |                                                             |                                                                                       |

### IMPORTANT SAFETY INSTRUCTIONS

- READ, FOLLOW, HEED, AND KEEP ALL INSTRUCTIONS AND WARNINGS.
- DO NOT OPERATE NEAR ANY HEAT SOURCE AND DO NOT BLOCK ANY VENTILATION OPENINGS ON THIS APPARATUS. FOR PROPER OPERATION, THIS UNIT REQUIRES 3" (75CM) OF WELL VENTILATED SPACE AROUND HEATSINKS AND OTHER AIR FLOW PROVISIONS IN THE CABINET.
- DO NOT USE THIS APPARATUS NEAR SPLASHING, FALLING, SPRAYING, OR STANDING LIQUIDS.
- CLEAN ONLY WITH LINT-FREE DAMP CLOTH AND DO NOT USE CLEANING AGENTS.
- ONLY CONNECT POWER CORD TO A POLARIZED, SAFETY GROUNDED OUTLET WIRED TO CURRENT ELECTRICAL CODES AND COMPATIBLE WITH VOLTAGE, POWER, AND FREQUENCY REQUIREMENTS STATED ON THE REAR PANEL OF THE APPARATUS.
- PROTECT THE POWER CORD FROM DAMAGE DUE TO BEING WALKED ON, PINCHED, OR STRAINED.
- UNPLUG THE APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.
- ONLY USE ATTACHMENTS, ACCESSORIES, STANDS, OR BRACKETS SPECIFIED BY THE MANUFACTURER FOR SAFE OPERATION AND TO AVOID INJURY.
- THIS APPARATUS DOES NOT OPERATE NORMALLY AND REQUIRES SERVICE WITH ANY PHYSICAL DAMAGE FROM IMPACT OR ANY EXPOSURE TO MOISTURE.
- SERVICE MUST BE PERFORMED BY QUALIFIED PERSONNEL.
- OUR AMPLIFIERS ARE CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS. CONTINUED EXPOSURE TO HIGH SOUND PRESSURE LEVELS CAN CAUSE PERMANENT HEARING IMPAIRMENT OR LOSS. USER CAUTION IS ADVISED AND EAR PROTECTION IS RECOMMENDED IF UNIT IS OPERATED AT HIGH VOLUME.

EXPLANATION OF GRAPHICAL SYMBOLS:

EXPLICACION DE SIMBOLOS GRAFICOS:

EXPLICATION DES SYMBOLES GRAPHIQUES:



= "DANGEROUS VOLTAGE"  
"VOLTAJE PELIGROSO"  
"DANGER HAUTE TENSION"



= "IT IS NECESSARY FOR THE USER TO REFER TO THE INSTRUCTION MANUAL"  
"ES NECESARIO QUE EL USUARIO SE REFIERA AL MANUAL DE INSTRUCCIONES."  
"REFERREZ-VOUS AU MANUAL D'UTILISATION"



### **A Message from the People Behind the BV300H:**

You now own the finest lead guitar amplifier in the world. The Crate BV300H was designed to fulfill the needs of the professional musician. It is equally at home in the studio, in the club, or on the big stage. This amplifier has been designed with key features to finely sculpt its sound into YOUR sound. The BV300H uses premium materials and workmanship and is made entirely in the U.S.A. It includes a full 5 year warranty on parts and labor and a 90 day warranty on tubes. Unlike some other amplifiers which only sound good when turned up, the BV300H delivers the same awesome tone at low volumes that it does at high stage levels. This is due to our unique power amplifier that produces the same sweet, warm juicy tone at ANY level. 3 watts or 300 watts, the tone is consistent, strong and powerful.

Don't let the 300W rating scare you. All amplifiers can benefit from added headroom. 300 watts allows the player to hear the detail and dynamics of the sound much better. The sound is like nothing you have ever heard before. Imagine palm muting the low strings and actually hearing the full dynamic. Many players don't even know what this sounds like because their amplifiers are underpowered. Have you ever started to turn your amplifier up louder only to have the tone change, get flubby, fart out.... Lack of headroom. The only way to describe it is to experience it.

Coupled with its massive power amplifier is a state of the art 3 channel preamp. Switching is accomplished via momentary switches that provide instant access to each of the 3 channels.

A classic design originally used for bass or guitar, Channel 1 is full of dynamic headroom and tonal versatility. It utilizes a clean, punchy preamplifier section with classic high and low tone EQs and a 5-position midrange selector to further dial in your tone.

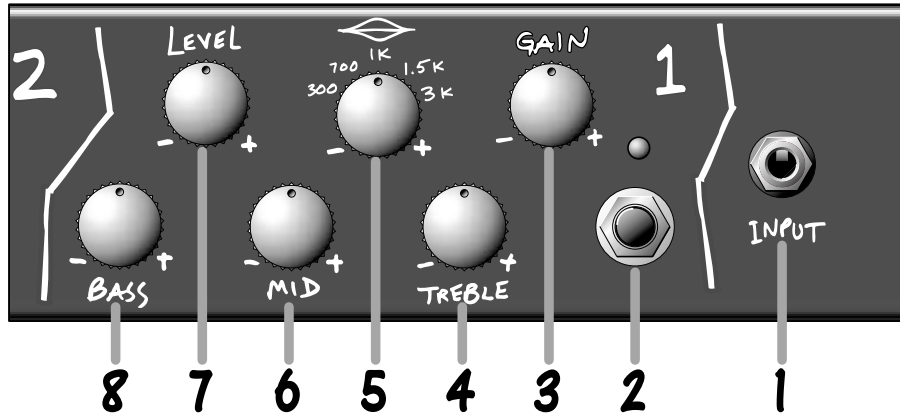
Channel 2 has a classic british tonality that will be familiar to most players. The warmth and crunch of a naturally overdriven power amp is captured powerfully by this channel. Touch sensitivity and dynamics are emphasized in this traditionally voiced preamp. This channel provides creamy-smooth overdrive, with a slight compression effect.

Channel 3 is the power driver. It delivers the goods in a forceful, aggressive manner with the slightest amount of tube compression. Voiced quite a bit harder than Channel 2, Channel 3 is like a sledgehammer pounding away.

Rounding out the front panel controls are a pair of power amp feedback controls, Eek and Ugh. Use them for tuning the amplifier to different cabinets or rooms.

The rear panel consists of an array of speaker outputs, 1/4" and Neutrik Speakon®, slave output with level control, bias controls and test points, and the effects loop with level controls - switchable for series or parallel operation. The loop can be engaged from the front panel switch or the supplied BVFS4 footswitch.

## THE FRONT PANEL - Input, Channel 1:



**1. Input Jack:** 1 Meg Ohm input impedance 1/4" input jack - plug your guitar in here.

**2. Channel 1 Select Switch:** When you want to use Channel 1, press this switch. The green LED above this switch lights up when Channel 1 is selected. The BV300H uses instant access switching - when the footswitch (#28, rear panel) is connected, either the front panel channel select switches or the footswitch will select the desired channel.

**3. Gain:** Use this control to adjust the input gain for Channel 1. Towards the "-" side gives you tight, dynamic clean tones. Towards the "+" side you'll get more crunch. Using a circuit that was originally used for the bass or guitar, the gain is mild, yet thick & punchy. (A humbucker will push the preamp intensely into compression.)

**4. Treble:** Use this control to adjust the top end level for Channel 1. The Treble control

provides a range of 38dB at 5kHz.

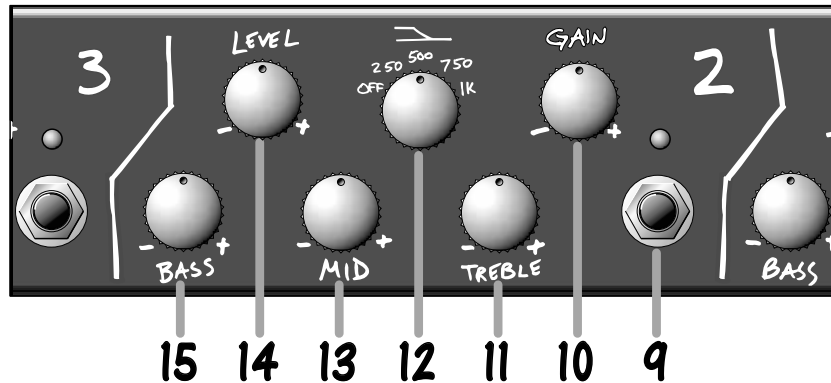
**5. Mid Freq Select:** Use this control to select the frequency where the Mid control takes effect - 300Hz, 700Hz, 1kHz, 1.5kHz, or 3kHz.

**6. Mid:** Use this control to adjust the midrange level for Channel 1. The Mid control gives you 10dB of boost or 22dB of cut at whatever frequency the Mid Freq control (#5) is set to. The Mid control is a peak/dip style filter.

**7. Level:** Use this control to adjust the output level of Channel 1. Along with the Gain control (#3), you can get the right blend of dynamics for your playing style.

**8. Bass:** Use this control to adjust the low end level for Channel 1. The Bass control provides 24dB of boost or cut at 50Hz.

## THE FRONT PANEL - Channel 2:



**9.Channel 2 Select Switch:** When you want to use Channel 2, press this switch. The amber LED above this switch lights up when Channel 2 is selected. The BV300H uses instant access switching - when the footswitch (#28, rear panel) is connected, either the front panel channel select switches or the footswitch will select the desired channel.

**10.Gain:** Use this control to adjust the input gain for Channel 2. Towards the "-" side gives you the classically British warm crunch. Towards the "+" side gives you creamy smooth overdrive with a touch of compression.

**11.Treble:** Use this control to adjust the top end level for Channel 2. The Treble control provides 12dB of boost or cut at 2kHz.

**12.Mid Boost Select:** Use this control to add a 4~5dB boost from the low end up to the midrange frequency selected: 250Hz, 500Hz, 750Hz, or 1kHz. There is, of course, no boost when this control is at the "off" position.

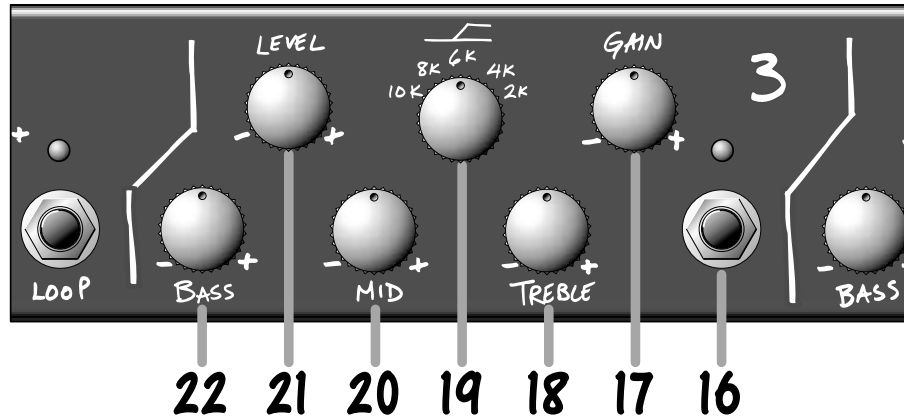
**13.Mid:** Use this control to adjust the midrange output level for Channel 2. The Mid control gives you 10dB of boost or cut at 750Hz.

**NOTE:** The Mid Boost Select (#12) uses a different circuit than the Mid control (#13).

**14.Level:** Use this control to adjust the output level of Channel 2. Use this control along with the Gain control (#10) to get the sound you're looking for on Channel 2.

**15.Bass:** Use this control to adjust the low end level for Channel 2. The Bass control provides 20dB of boost or cut at 50Hz.

## THE FRONT PANEL - Channel 3:



**16.Channel 3 Select Switch:** When you want to use Channel 3, press this switch. The red LED above this switch lights up when Channel 3 is selected. The BV300H uses instant access switching - when the footswitch (#28, rear panel) is connected, either the front panel channel select switches or the footswitch will select the desired channel.

**17.Gain:** Use this control to adjust the input gain for Channel 3. Towards the "-" side gives you a punchy tube sound perfect for aggressive rhythm playing. Towards the "+" side and you're asking for some seriously aggressive tones!

**18.Treble:** Use this control to adjust the top end level for Channel 2. The Treble control provides 25dB of boost or cut at whatever frequency the High Freq control (#19) is set to.

**19.High Freq Select:** Use this control to choose the frequency where the High control takes effect - 10kHz, 8kHz, 6kHz, 4kHz or 2kHz.

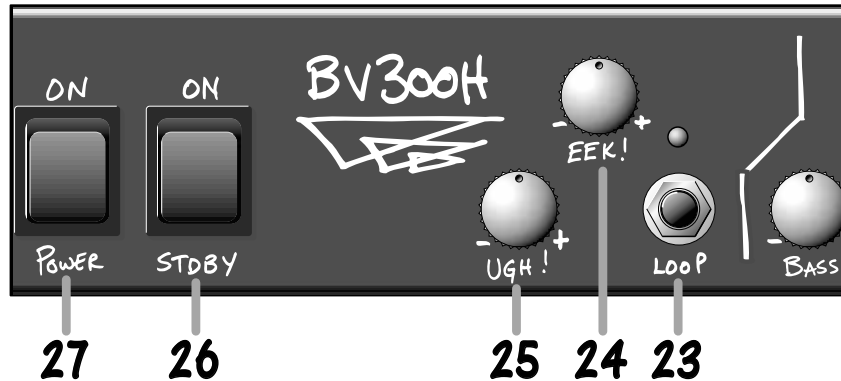
**20.Mid:** Use this control to adjust the midrange level for Channel 3. The Mid control provides 20dB of boost or cut at 1.2kHz.

**21.Level:** Use this control to adjust the output level of Channel 3. Use this control along the Gain control (#17) to get the sound you're looking for on Channel 3.

**22.Bass:** Use this control to adjust the low end level for Channel 3. The Bass control provides 18dB of boost or cut at 100Hz.



## THE FRONT PANEL - Effects Loop, Eek & Ugh:



**23. Loop Switch:** When you want to engage the rear panel effects loop, press this switch. The blue LED above this switch lights up when the effects loop is active. This can be used as a “boost” feature – see the “Hot Tip” on page 9. The BV300H uses instant access switching – when the footswitch (#28, rear panel) is connected, either the front panel loop switch or the footswitch will activate the effects loop.

**24. Eek!:** This is your high frequency power amp damping control. This is used to add definition and edge to your sound. The Eek! control helps to compensate for dark rooms and/or speaker cabinets.

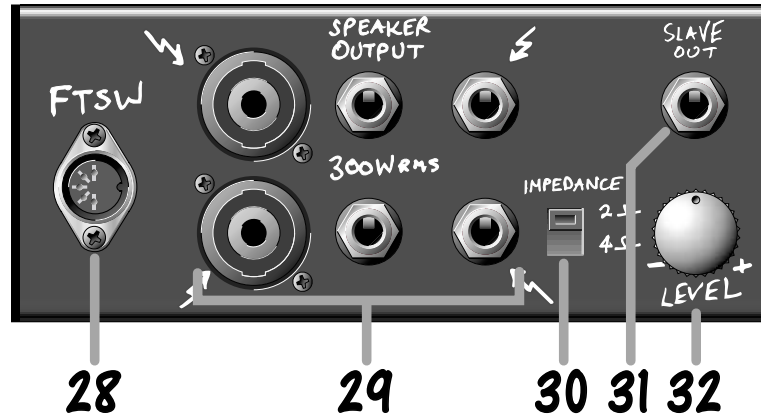
**25. Ugh!:** This is your low frequency power amp damping control. This is used to control and shape the low end. Towards the “-” side tightens up the bass and controls the speaker cones better. Towards the “+” side makes it more “thumpy” and allows the speaker cones to move easier.

**26. Standby Switch:** Use this switch to put the amplifier into “Stand By” mode – the tube filaments are still turned on, but the high voltage is deactivated.

**NOTE:** The Power switch must be turned on for at least ONE MINUTE before you turn on the Standby switch (#26).

**27. Power Switch:** Use this switch to turn the amplifier on and off.

## THE REAR PANEL - Footswitch, Speakers, Slave Out:



**28. Footswitch Jack:** Use this jack to connect the BVFS4 four-button footswitch to the amplifier. This allows you to switch channels and turn the effects loop on and off - by remote foot control. Connect one end of the supplied footswitch cable\* to this jack, the other end to the footswitch.

**29. Speaker Output Jacks:** Use these jacks to connect your speaker cabinet(s) to the amplifier. The wiring for the Speakon® jacks is Pin 1+ = hot, Pin 1- = ground.

All six Speaker Output jacks are wired in parallel, which lets you connect the amp to a bunch of cabinets.

The minimum gauge of the wiring used for these connecting cables should be 16GA!

**30. Impedance Switch:** Use this switch to match the amplifier to the total impedance of your speaker cabinets. Use the following chart and make sure that this switch is at the proper setting before playing!

| IMPEDANCE<br>OF CABINETS | NUMBER OF<br>CABINETS | TOTAL<br>IMPEDANCE |
|--------------------------|-----------------------|--------------------|
| 16 ohms                  | 8                     | 2 ohms             |
| 16 ohms                  | 4                     | 4 ohms             |
| 8 ohms                   | 4                     | 2 ohms             |
| 8 ohms                   | 2                     | 4 ohms             |
| 4 ohms                   | 2                     | 2 ohms             |

**31. Slave Out Jack:** Use this jack to connect the amp to a slave amplifier, PA amp, or recording console. The signal at the Slave Out jack is an attenuated version of the signal at the Speaker Output jacks.

**NOTE:** The signal at the Slave Out jack is capable of potentially damaging certain equipment. Make sure the Slave Out Level control is all the way down before connecting anything to the Slave Out jack. Then **slowly** increase the Level control!

**Never use the Slave Out if the amplifier is not connected to a speaker cabinet!**

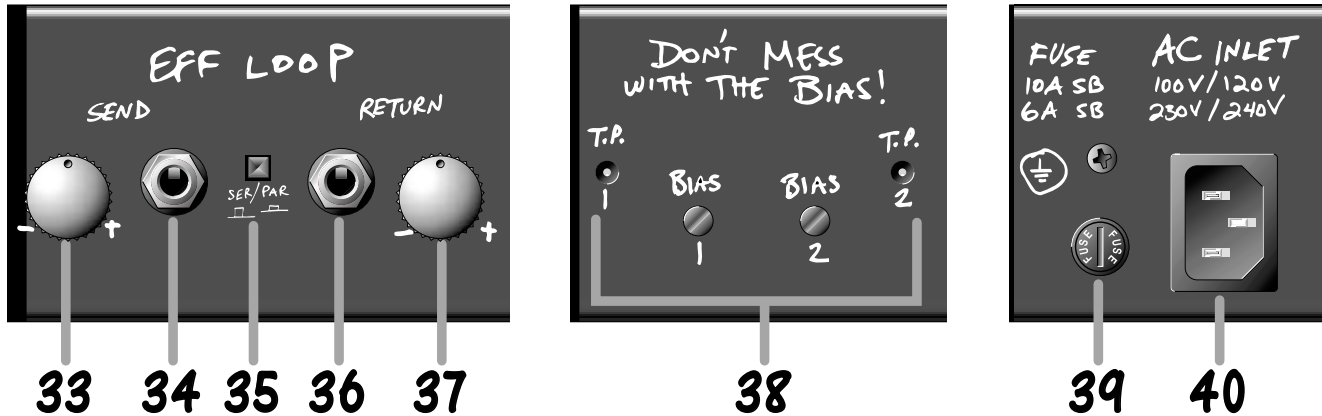
**32. Slave Out Level:** Use this knob to adjust the output level of the Slave Out signal (#31).

**\*NOTE:** You **MUST** use a 5-wire MIDI cable when connecting the BVFS4 to the amplifier for proper operation of the footswitch.



The BVFS4 footswitch - select channels & turn the effects loop on and off with just a tap of your foot!

## THE REAR PANEL - Effects Loop, Bias, AC Power:



**33. Effects Loop Send Level:** Use this knob to adjust the level of the Effects Loop Send signal (#34). Some effects are picky as to what they like for an input level, so use this knob to get them to smile.

**34. Effects Loop Send Jack\*:** When connecting the amp to an external effects device, use this jack to send the signal to the Input jack of the effect.

**35. Series/Parallel Switch:** Use this switch to configure the effects loop in series or in parallel with the signal path. Certain effects sound better one way than the other.

**36. Effects Loop Return Jack\*:** When connecting the amp to an external effects device, use this jack to return the signal from the output of the effects device back into the amplifier.

**37. Effects Loop Return Level:** Use this knob to adjust the level of the Effects Loop Return signal (#36). Some effects have hotter outputs than others, so use this knob to adjust the return signal level for the best level of effect.

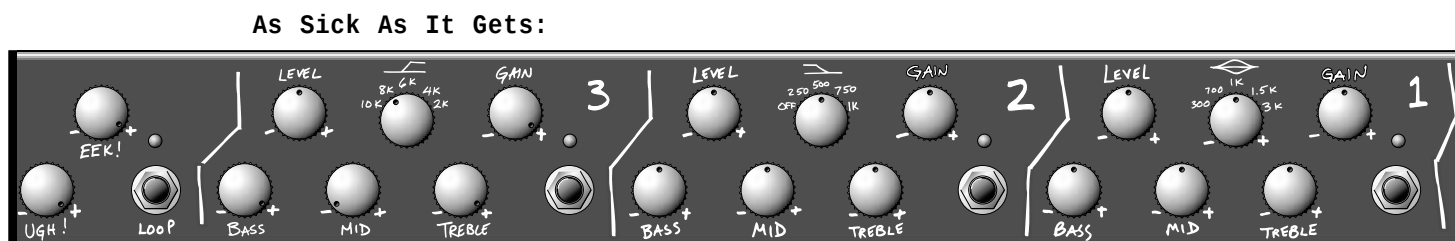
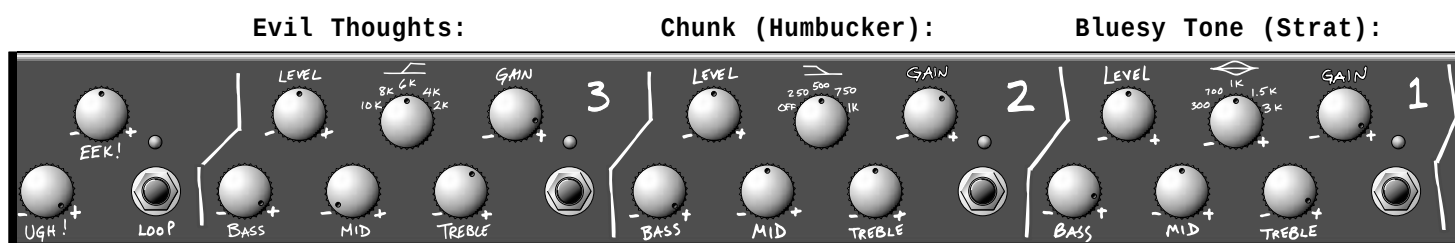
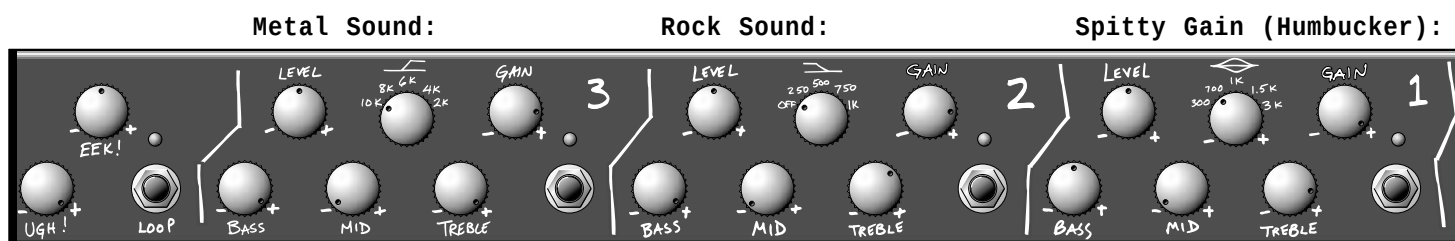
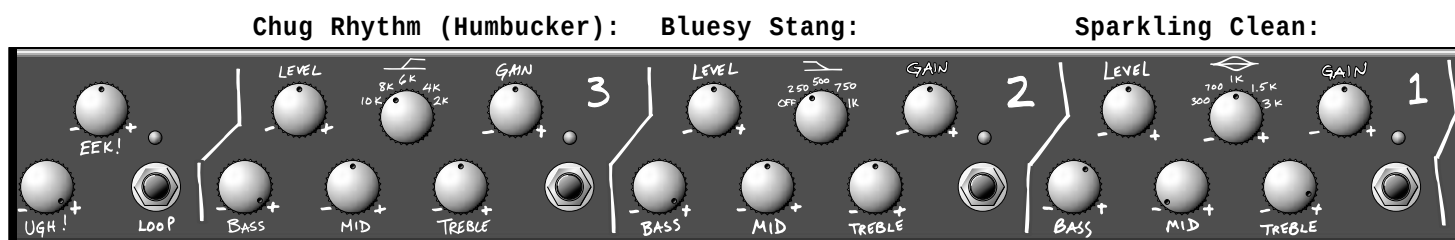
**38. Bias Controls:** Authorized Service personnel use this section to work their magic on the amplifier. Like it says on the amp: **Don't mess with the Bias!** Your Authorized Crate Service Center will have all the information needed to re-bias your amplifier if and when it becomes necessary.

**39. Fuse:** The fuse helps protect the amplifier against damage from faulty AC line voltages and other possible problems. If the amp stops working, check the fuse. If the fuse is blown, replace it **ONLY** with the exact same size and type as indicated! If the problem persists, contact your Authorized Crate Service Center.

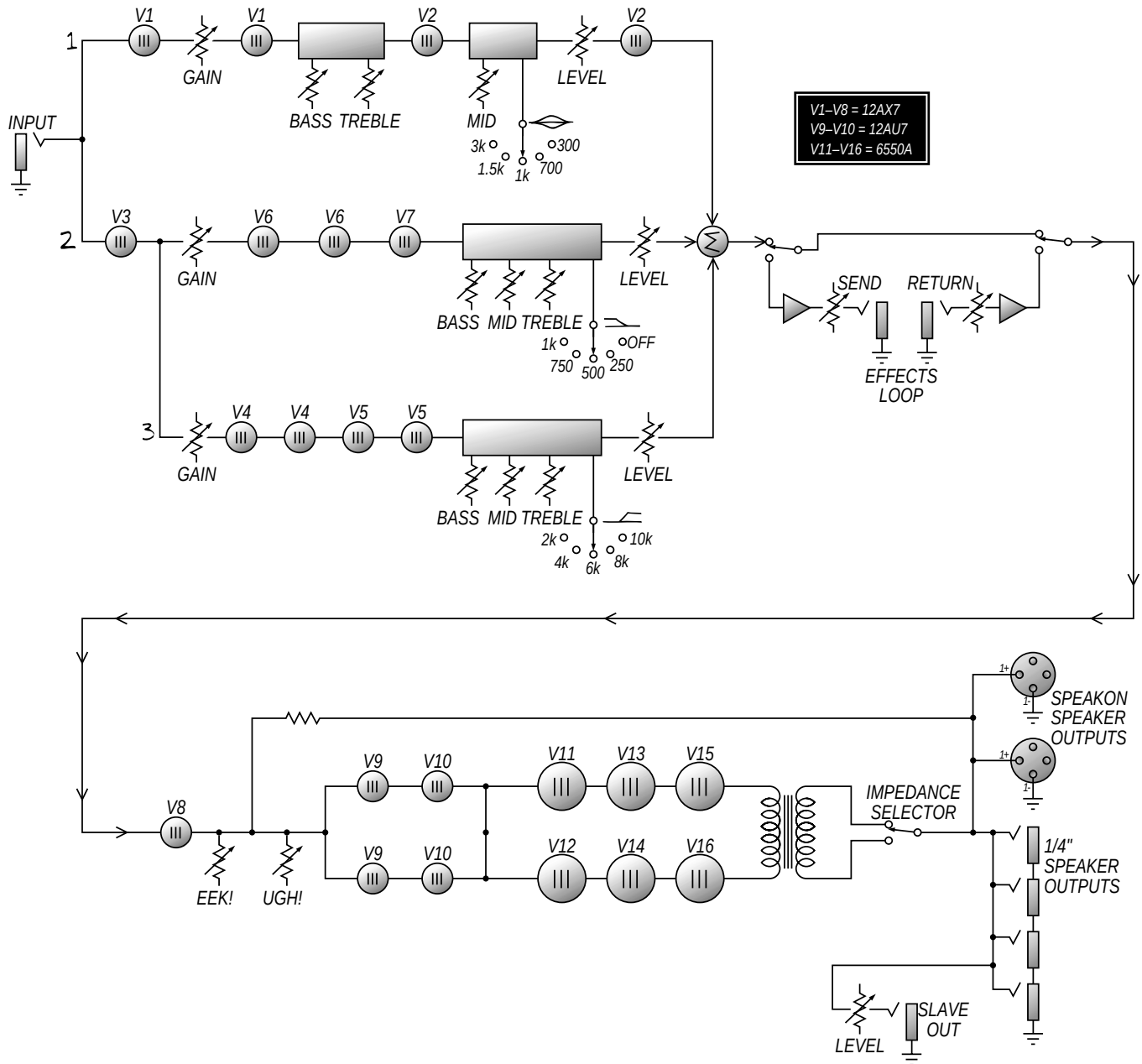
**40. AC Inlet Jack:** Insert the female end of the power cord firmly into this jack. The grounded power cord should only be plugged into a grounded power outlet that meets all applicable electrical codes and is compatible with the voltage, power, and frequency requirements stated on the rear panel. **Do not attempt to defeat the safety ground connection!**

**\*HOT TIP!** If you connect a signal cable from the Effects Loop Send jack (#34) to the Effects Loop Return jack (#36), the loop level control adjust the amount of boost engaged - up to 6dB in the series mode, up to 9dB in the parallel mode!

## Some Suggested Settings:



## The Block Diagram:





## Technical Specifications:

|                              |                                                                                   |                              |                         |
|------------------------------|-----------------------------------------------------------------------------------|------------------------------|-------------------------|
| <b>OUTPUT POWER RATING</b>   | 300 Watts RMS @ 5% THD, 4 ohm load, 120 VAC                                       |                              |                         |
| <b>SIGNAL TO NOISE RATIO</b> | 75dB Typical                                                                      |                              |                         |
| <b>GAIN</b>                  | Channel 1                                                                         | Channel 2                    | Channel 3               |
|                              | 80dB                                                                              | 105dB                        | 105dB                   |
| <b>EQs</b>                   | Channel 1                                                                         | Channel 2                    | Channel 3               |
| <b>LOW</b>                   | 24dB range @ 50Hz                                                                 | 20dB range @ 50Hz            | 18dB range @ 100Hz      |
| <b>MID</b>                   | +10/-22dB @ EQ Switch                                                             | 10dB range @ 750Hz           | 20dB range @ 1.2kHz     |
| <b>EQ SWITCH</b>             | 300,700,1k,1.5k or 3kHz                                                           | +4-5dB @ 250,500,750 or 1kHz | 2k, 4k, 6k, 8k or 10kHz |
| <b>HIGH</b>                  | 38dB range @ 5kHz                                                                 | 12dB range @ 2kHz            | 25dB range @ EQ Switch  |
| <b>SEEK!</b>                 | 6dB @ 5kHz                                                                        |                              |                         |
| <b>ROUGH!</b>                | 5dB below 250Hz                                                                   |                              |                         |
| <b>PREAMP TUBES</b>          | (8) 12AX7A, (2) 12AU7                                                             |                              |                         |
| <b>POWER TUBES</b>           | (6) 6550A                                                                         |                              |                         |
| <b>POWER REQUIREMENTS</b>    | 120 VAC, 60 Hz, 600VA<br>100/115 VAC, 50/60 Hz, 600VA<br>230 VAC, 50/60 Hz, 600VA |                              |                         |
| <b>SIZE AND WEIGHT</b>       | 30"W x 12-1/2" H x 11"D, 80 lbs.                                                  |                              |                         |

*Specifications and information subject to change without notice.*

The BV300H is covered with heavy duty Tolex® - wipe it clean from time to time with a soft damp cloth.

### Declaration Of Conformity

#35, Effective 01-01-2001

|                                 |                                                          |
|---------------------------------|----------------------------------------------------------|
| <b>Manufacturer's Name:</b>     | SLM Electronics                                          |
| <b>Production Facility:</b>     | 11880 Borman Drive, St. Louis, MO 63146, USA             |
| <b>Production Facility:</b>     | 700 Hwy 202 W, Yellville, AR 72687, USA                  |
| <b>Shipping Facility:</b>       | 1400 Ferguson Ave., St. Louis, MO 63133, USA             |
| <b>Office Facility:</b>         | 1400 Ferguson Ave., St. Louis, MO 63133, USA             |
| <b>Product Type:</b>            | Audio Amplifier                                          |
| <b>Complies with Standards:</b> |                                                          |
| <b>LVD:</b>                     | 92/31/EEC, 93/68/EEC, & 73/23/EWG                        |
| <b>Safety:</b>                  | EN60065                                                  |
| <b>EMC:</b>                     | EN55013, EN55020, EN55022, EN61000-3-2,<br>& EN61000-3-3 |

Supplementary information provided by:  
SLM Electronics - R & D Engineering  
1901 Congressional Drive, St Louis, MO 63146, USA  
Tel.: 314-569-0141, Fax: 314-569-0175



[www.crateamps.com](http://www.crateamps.com)

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47-329-01 • 07/02